Kirsten Banks, a Wiradjuri woman from Ku-ring-gai, is in the honours year of her Bachelor of Science degree at UNSW Sydney.

She is an astronomer who loves to share her passion about the universe and deep cosmic knowledge of Aboriginal Australians, taking up a position as an astronomy guide at Sydney Observatory in the first year of her studies.

“My degree gave me many opportunities and opened career paths for me to follow. One of the important things about UNSW is that you won’t just be taught content and theory but also given the skills to apply the knowledge to your career.”

Kirsten has been featured in Cosmos science magazine, has written for The Guardian and was a 2017 CSIRO Indigenous STEM Award finalist.

“The university’s investment in state-of-the-art facilities played a huge factor in picking UNSW as it shows that the university is passionate about providing hi-tech and first-class technologies for its students, researchers and teachers.”
Student opportunities

**Student exchange with overseas partners**
Broadening your global perspective.

**Internships and industry placements**
Building stronger connections with industry.

**Mentoring programs**
To help you with your transition to university.

**Scholarships and awards**
Rewarding excellence and making university life accessible to students from all walks of life.

**Societies and clubs**
Over 300 clubs and societies to choose from!

Double degrees
You can combine your passion for science with another degree at UNSW. A double degree will enable you to incorporate different approaches to your study, broaden your opportunities and will give you an advantage in the job market.

**Some double degree options include:**
- Science/Engineering (Honours)
- Commerce/Science
- Science/Law
- Science/Arts

For a full list of double degrees visit degrees.unsw.edu.au.

Embrace your brilliant career
UNSW Science is where the brightest minds converge to learn, explore and discover. Our vibrant and welcoming community prepares you for real-world challenges and future leadership opportunities. In an economy increasingly dominated by science and technology, there’s soaring demand for scientists, who will flourish in well-rewarded careers. Together with our high-profile industry partners, we will inspire you to achieve your goals.

Learn from world-class teachers
We demand the very highest in teaching standards so we know our students are learning from the best of the best. Study amongst our innovative, passionate and pioneering educators, including quantum physicist - and 2018 Australian of the Year - Professor Michelle Simmons; leading marine ecologist Professor Emma Johnston; and revolutionary recycling scientist Professor Veena Sahajwalla.

Make profound scientific discoveries
UNSW Science is driven by the ethos of collaboration, exploration, achievement and accomplishment. Here, you can access world-class laboratories, clinics and simulators that will equip you with the tools to explore new frontiers and make profound scientific discoveries to benefit society.
Bachelor of Advanced Science (Honours)

**Duration**: 4 years

**Career opportunities**
Employment across a wide range of settings including public sector research in universities and government institutes like CSIRO, as well as private sector research in pharmaceuticals and biotechnology companies, public policy, health and environmental related non-profits, market research and product development, management, technical and environmental consulting, data analytics or medical sales and science communication.

**Majors**
- Advanced Physical Oceanography
- Advanced Physics
- Anatomy
- Bioinformatics
- Biology
- Biotechnology
- Chemistry
- Climate Dynamics
- Climate Systems Science
- Earth Science
- Ecology
- Genetics
- Geography
- Marine and Coastal Science
- Materials Science
- Mathematics
- Microbiology
- Molecular and Cell Biology
- Neuroscience
- Pathology
- Pharmacology
- Physiology
- Psychology
- Statistics
- Vision Science

**Combine this degree with:**
Arts, Commerce, Computer Science, Economics, Engineering (Hons), Fine Arts, Law, Music, Social Research and Policy

**Innovative thinkers with exceptional scientific knowledge and skills will embrace this degree, which includes advanced-level courses and an Honours year. The Advanced Science (Honours) program has 25 majors to choose from including Advanced Physical Oceanography, Climate Systems Science, Microbiology, Vision Science and Advanced Physics.**

**Structure**
- Major
- SCIF1131
- Science electives
- Free electives (from any faculty at UNSW)
- General Education non-science courses
- 1 year Honours

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Bachelor of Aviation (Flying)

**Duration**: 3 years

**Career opportunities**
Pilots for regional or major commercial airlines, training centres, charter flights, or as aerial surveyors.

**Professional accreditation**
This degree is professionally recognised.

**Majors**
- Aviation (Flying)

**Important information**
You will need to pay for the flight training costs portion of this degree. In 2019, the anticipated standard cost of flight training to obtain the minimum of a Commercial Pilot License (CPL), Instrument Rating - Multi Engine Aeroplane, and ATPL (Frozen) is approximately A$138,000. Additional flying costs will be incurred depending on a student's choice of third year flying practicum and if more than the 200 flight hours are required to achieve proficiency in any aspect of the flight training.

In addition to your ATAR (or equivalent), Aviation (Flying) requires an internal application directly to the UNSW School of Aviation. Students will then be invited to undergo an interview and if successful, will need to obtain a Class 1 Civil Aviation Authority (CASA) medical examination before flying training commences in second year.

**Dreaming of becoming a pilot?** You’ll learn the science behind aviation as well as gain your flying licences. In addition to theoretical studies, you will gain up to 200 hours of flight training and approximately 30 hours of simulator training. You will also take aviation management courses to prepare you for industry roles.

**Structure**
- Aviation flying core courses
- General Education non-science courses
Bachelor of Aviation (Management)

Duration 3 years
2019 Lowest ATAR1 71.80
2019 Lowest Selection Rank2 80.00
2020 GE Rank3 80.00
Assumed knowledge Mathematics
General 2

This degree is focused on aviation management, rather than pilot training, and is designed for people with little or no background in aviation. You will do a range of courses in management areas such as operations management, aviation economics, law and regulations, airline marketing and safety.

Career opportunities
Management in airlines, freight companies, regulatory authorities, defence forces or airports. Specific examples include Airfreight manager, Airport planner, Flight Crew Scheduler, Aviation Consultant, Flight Analyst, Flight Safety Investigator, Aviation Revenue Manager and Airport or Fleet Planner.

Combine this degree with:
Commerce

Structure

<table>
<thead>
<tr>
<th>Aviation Management core courses</th>
<th>+</th>
<th>Aviation elective courses</th>
<th>+</th>
<th>Free electives (from any faculty at UNSW)</th>
<th>+</th>
<th>General Education non-science courses</th>
</tr>
</thead>
</table>

Bachelor of Biotechnology (Honours)

Duration 4 years
2019 Lowest ATAR1 75.05
2019 Lowest Selection Rank2 85.00
2020 GE Rank3 85.00
Assumed knowledge Mathematics, Chemistry

Biotechnologists work at the forefront in pharmaceuticals, food, industrial chemicals, crop and livestock farming, environmental clean-up and forensics. In this four-year degree, which includes an Honours year, you’ll learn the fundamentals of science before delving deeper into the multidisciplinary world of biotechnology, with courses including molecular biology, microbiology, chemistry and genetics.

Career opportunities
Become a scientist or researcher with medical, biological or pharmaceutical research organisations. Graduates are working as research and development managers, clinical trial associates, in government regulation and policy, industry regulatory affairs or intellectual property management. There are also career options in marketing, sales, biotech investment and finance, and business development.

Structure

<table>
<thead>
<tr>
<th>Biotechnology core courses</th>
<th>+</th>
<th>Biotechnology elective courses</th>
<th>+</th>
<th>Free electives (from any faculty at UNSW)</th>
<th>+</th>
<th>General Education non-science courses</th>
<th>+</th>
<th>1 year Honours</th>
</tr>
</thead>
</table>

1. ATAR: Australian Tertiary Admission Rank
2. Selection Rank
3. General Entry Rank
### Bachelor of Data Science and Decisions

<table>
<thead>
<tr>
<th>Structure</th>
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<tbody>
<tr>
<td><strong>Duration</strong></td>
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<tr>
<td><strong>2019 Lowest ATAR</strong></td>
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<tr>
<td><strong>2019 Lowest Selection Rank</strong></td>
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<tr>
<td><strong>2020 GE Rank</strong></td>
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<tr>
<td><strong>Assumed knowledge</strong></td>
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</tbody>
</table>

As billions of devices feed data to central databases, businesses and governments require experts to interpret that data. In this degree, you will gain the theoretical and practical skills required to enter the lucrative field of data analysis - through a blend of mathematical methods, statistics, computing, business decisions and communication.

**Career opportunities**
Graduates from this degree may pursue a career as a Business Analyst, Customer Success Manager, Data Scientist, Data Engineer, Data Analyst, Data Manager, Data Architect, Database Administrator, Digital Data Analyst, Environmental Data Analyst, Forecast Modeller, Reporting Analyst, Statistician or University Educator.

#### Majors
- Quantitative Data Science
- Computational Data Science
- Business Data Science

**Combine this degree with:**
- Law

**Data Science core courses** + **Major** + **Free electives (from any faculty at UNSW)** + **General Education non-science, engineering or business courses**

### Bachelor of Environmental Management

<table>
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<tr>
<th>Structure</th>
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<tr>
<td><strong>Duration</strong></td>
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<tr>
<td><strong>2019 Lowest ATAR</strong></td>
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<tr>
<td><strong>2019 Lowest Selection Rank</strong></td>
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<tr>
<td><strong>2020 GE Rank</strong></td>
</tr>
<tr>
<td><strong>Assumed knowledge</strong></td>
</tr>
</tbody>
</table>

Environmental scientists help shape policy and regulations to create sustainable solutions. This degree will teach you the theory and practical skills you need to influence decisions by providing guidance on how to create a balance between economic, social and environmental concerns. Hands-on learning experience allows students to tackle real-world problems.

**Career opportunities**
Graduates pursue careers as Environmental Consultants, Scientists, Managers, Policy Developers or Researchers within industry or with local, state or federal government. Employers may include National Parks and Wildlife Service or the Environmental Protection Authority.

**Majors**
- Biology
- Earth Science
- Ecology
- Environmental Chemistry
- Geography
- Marine and Coastal Science

**Combine this degree with:**
- Arts

**Environmental Management core courses** + **Major** + **Elective courses** + **Free electives (from any faculty at UNSW)** + **General Education non-science courses** > **1 year optional Honours**
### Bachelor of Life Sciences

**Structure**

<table>
<thead>
<tr>
<th>Major</th>
<th>Science electives</th>
<th>Free electives (from any faculty at UNSW)</th>
<th>General Education non-science courses</th>
<th>1 year optional Honours</th>
</tr>
</thead>
</table>

**Career opportunities**

Life sciences have valuable applications in health, agriculture, environmental management, medicine, pharmaceutical and food science industries. Recent graduates work in business, industry, government and universities.

**Majors**
- Anatomy
- Biology
- Biological Chemistry
- Biotechnology
- Ecology
- Genetics
- Marine and Coastal Science
- Microbiology
- Molecular and Cell Biology
- Pathology
- Pharmacology
- Physiology
- Psychology

### Bachelor of Medical Science

**Structure**

<table>
<thead>
<tr>
<th>Medical Science core courses</th>
<th>Medical Science electives</th>
<th>General Science elective</th>
<th>Free electives (from any faculty at UNSW)</th>
<th>General Education non-science courses</th>
<th>1 year optional Honours</th>
</tr>
</thead>
</table>

**Career opportunities**

Medical Science graduates work in fields such as medical research, paramedical professions, health policy, medical laboratory science, pathology and forensic science, patents and intellectual property, market research and product development, and in pharmaceutical and biotechnology industries.

**Majors**
- Human Anatomy
- Molecular Biology
- Molecular Genetics
- Medical Microbiology
- Neurobiology
- Human Pathology
- Medical Pharmacology
- Medical Physiology

### Bachelor of Materials Science and Engineering (Hons)

**Structure**

<table>
<thead>
<tr>
<th>Materials Science core courses</th>
<th>Professional electives</th>
<th>Materials Science Honours Project</th>
<th>General Education; non-science and engineering courses</th>
</tr>
</thead>
</table>

**Career opportunities**

To create high-performance materials such as metals, ceramics, polymers and composites, you need a solid background in Materials Science. This degree will put you at the forefront of innovation in developing materials that are lighter, greener and stronger. Electives include ceramic engineering, materials engineering, physical metallurgy and process metallurgy.

**Majors**
- Physical Metallurgy
- Process Metallurgy
- Materials Engineering
- Ceramic Engineering
- Functional Materials

**Combine this degree with:**
- Commerce, Engineering Science in Chemical Engineering, Master of Biomedical Engineering
Bachelor of Medicinal Chemistry (Honours)

Duration 4 years
2019 Lowest ATAR1 80.35
2019 Lowest Selection Rank2 90.00
2020 GE Rank3 90.00
Assumed knowledge Mathematics, Chemistry

Contemporary biology, biochemistry, pharmacology and essential chemistry are among skills taught under this multidisciplinary degree, which encompasses all aspects of new drug design and development, from concept to clinic stages. In your Honours year, you will complete a supervised research project.

Career opportunities
Graduates are equipped with skills in modern molecular biology and pharmacology, underpinned with a comprehensive background in chemistry, with relevant synthetic skills necessary for synthesising complex drug candidates. Employment opportunities include pharmaceutical and biotechnology industries, research, government, management, legal, and education sectors.

Majors
Medicinal Chemistry

Combine this degree with:
Law

Structure
Medicinal Chemistry core courses + Medicinal Chemistry electives + Free electives (from any faculty at UNSW) + General Education non-science courses > 1 year Honours

Bachelor of Psychological Science

Duration 3 years
2019 Lowest ATAR1 77.40
2019 Lowest Selection Rank2 87.00
2020 GE Rank3 88.00
Assumed knowledge Mathematics

Psychology is the study of mind and behaviour. Topics of study include learning, memory, cognition, perception, neuroscience, and developmental, forensic, social and abnormal psychology. This degree allows you to study for an accredited three-year degree in Psychology at the same time as undertaking a complementary major in a number of related areas, including marketing, human resource management, management, criminology, linguistics, philosophy, vision science and neuroscience.

Career opportunities
Psychologists are employed in advertising, community development and relations, copyrighting, counselling, developmental care, public, community and occupational health, management consultancy, human resources, recruitment, training and development, industrial relations, banking, journalism, marketing, administrative and support services, business and retail management, statistical and data analysis, and many other areas.

Majors
• Criminology
• Human Resource
• Management
• Linguistics
• Marketing
• Neuroscience
• Philosophy
• Vision Science

Combine this degree with:
Law

Professional accreditation
This is an Australian Psychology Accreditation Council (APAC) accredited 3-year undergraduate sequence in Psychology. This program is the first step on the six-year pathway to becoming a registered professional psychologist.

Structure
Psychological Science core course + Psychology electives + Optional complementary major + Free electives (from any faculty at UNSW) + General Education non-science courses > 1 year optional Honours

If completing a complementary major outside of the Faculty of Science, students are deemed to have met their general education requirements.
# Bachelor of Psychology (Honours)

**Structure**

1. Psychology core course
2. Psychology electives
3. Free electives (from any faculty at UNSW)
4. General Education non-science courses
5. 1 year optional Honours

**Assumed knowledge** Mathematics

Psychology is the study of mind and behaviour. Topics of study include learning, memory, cognition, perception, neurosciences, and developmental, forensic, social, and abnormal psychology. Students gain an integrated and comprehensive knowledge in the main discipline areas of psychology and develop strong research, analytical and communication skills.

**Career opportunities**

Psychologists work in a range of organisations within both the public and private sector, such as counselling, development care, public, community and occupational health, management consultancy, human resources, recruitment, training and development, industrial relations, banking, journalism, marketing, business and retail management, statistical and data analysis, and many other areas.

**Professional recognition**

This is an Australian Psychology Accreditation Council (APAC) accredited 4-year undergraduate sequence in Psychology. This program is the first step on the six-year pathway to becoming a registered professional psychologist.

**Combining this degree with**

- Law

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# Bachelor of Science (Advanced Mathematics) (Honours)

**Structure**

1. Major
2. SCIF1131
3. Science electives
4. Free electives (from any faculty at UNSW)
5. General Education non-science courses
6. 1 year Honours

**Assumed knowledge** Mathematics Extension 1

High-achieving students who want to specialise in mathematics as a basis for an increasing range of quantitative careers - in areas such as finance and environmental modelling - will be attracted to the Advanced Mathematics degree. The four-year degree combines advanced coursework with an Honours-level research project.

**Career opportunities**

Opportunities in banking, insurance and investment, environmental modelling, oceanography, meteorology, computing, information technology, government, education and research.

**Majors**

- Applied Mathematics
- Pure Mathematics
- Advanced Statistics

**Combining this degree with**

- Actuarial Studies, Arts, Commerce, Computer Science, Economics, Engineering (Hons), Law

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# Bachelor of Science

**Structure**

1. Major
2. Science electives
3. Free electives (from any faculty at UNSW)
4. General Education non-science courses
5. 1 year optional Honours

**Assumed knowledge** Mathematics and Chemistry plus one or more of Biology, Earth & Environmental Science, Physics or Mathematics Extension 1 (depending on chosen area of study).

If you want to pursue a career in science but aren’t sure what field, this degree offers flexibility. You are encouraged to choose a broad range of courses in your first year, to expand your general understanding, then choose from a wide selection of major options in second and third year.

**Career opportunities**

Recent graduates work in business, industry, government and universities. They are employed in areas as diverse as pharmaceutical and medical research, public policy, occupational health and safety, environmental research and industry, manufacture of new products, forensic science, patent law, cognitive science, oceanography, food manufacture, science teaching, science journalism, meteorology, optics and applications of mathematics and statistics in the finance industry.

**Majors**

- Anatomy
- Bioinformatics
- Biology
- Biotechnology
- Chemistry
- Earth Science
- Ecology
- Food Science
- Genetics
- Geography
- Marine and Coastal Science
- Materials Science
- Mathematics
- Microbiology
- Molecular and Cell Biology
- Neuroscience
- Pathology
- Pharmacology
- Physical Oceanography
- Physics
- Physiology
- Psychology
- Statistics
- Vision Science

**Combining this degree with**

- Actuarial Studies, Arts, Commerce, Computer Science, Economics, Engineering (Hons), Fine Arts, Law, Music, Social Research and Policy
Scientists increasingly need to be experts in their field and qualified to interact effectively with colleagues around the world. This degree focuses on a Science major as well as cross-cultural skills, knowledge and understanding. It includes subsidised study overseas at a UNSW partner university.

**Career opportunities**

This is a flexible degree with a broad range of career options in Australia and overseas. Graduates are employed in a variety of science and technology-based roles in management, research, communications, international development and policy development within international government and non-government organisations, and private sector companies.

**Majors**

Students must complete at least one approved Bachelor of Science (International) major and one language minor. Science discipline areas: refer to Bachelor of Science.

**Language discipline areas**

- Advanced Chinese Studies (Extended)
- Advanced French Studies (Extended)
- Advanced Korean Studies (Extended)
- Chinese Studies (Extended)
- French Studies (Extended)
- German Studies (Extended)
- Indonesian Studies (Extended)
- Japanese Studies (Extended)
- Korean Studies (Extended)
- Spanish and Latin American Studies (Extended)

The availability of majors may be subject to review. For updates visit: science.unsw.edu.au

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**Bachelor of Science and Business**

Are you a future entrepreneur who wants to pursue a business career in a scientific industry? This degree is two-thirds Science and one-third Business. You will graduate with skills for working in the scientific industry as well as an understanding of the commercial environment in which you are employed.

**Career opportunities**

A variety of research, communication, leadership and management roles in science and technology-based public and private sectors. Graduates are skilled in the commercial applications of scientific research giving them a competitive edge in the graduate labour market. Examples include brand manager, product development manager, medical sales and technical specialist and marketing and communications specialist. Recent graduates have also started a variety of successful science-based commercial businesses.

**Majors**

- Anatomy
- Bioinformatics
- Biology
- Biotechnology
- Chemistry
- Earth Science
- Ecology
- Food Science
- Genetics
- Geography
- Marine and Coastal Science
- Materials Science
- Mathematics
- Microbiology
- Molecular and Cell Biology
- Neuroscience
- Pathology
- Pharmacology
- Physical Oceanography
- Physics
- Physiology
- Psychology
- Statistics
- Vision Science

Combine this degree with:

- Law
Bachelor of Vision Science

Vision Science is the study of the sensory processes that underlie vision and the development and use of vision-related technologies. This degree aims to develop scientists who understand how we see and interact with our world. Graduates will have a deep understanding of a broad range of areas including sensation and perception, psychophysics, optics, anatomy and functioning of the eye, oculo-visual disorders, introductory pharmacology, visual aids and dispensing, the consulting room interface, and research design, methods and experimentation.

Career opportunities
Employment opportunities exist in a wide range of optics, vision science and ophthalmology research laboratories which involve the development of vision correction devices such as contact lenses, spectacles, ocular implants, imaging, and drug development. Specific examples include work as an Ophthalmic Assistant, in ophthalmic industries and in eye and vision research.

Combine this degree with:
See Vision Science / Master of Clinical Optometry

Structure

| Vision Science Core courses | 2 General Education non-science courses |

Bachelor of Vision Science / Master of Clinical Optometry

This double degree combines the theoretical discipline of vision science with the clinical art of primary eye care. Graduates of this program can register as an optometrist in Australia having studied the physiology of the eye, the diagnosis and management of people with ocular disease or with special needs (children, low vision, sports vision, workplace needs), the psychophysics of vision and the neuroscience of the brain.

Career opportunities
Graduates can pursue a career as an Optometrist, and may specialise in clinical practice, paediatric optometry, contact lenses, public health, sports vision, low vision rehabilitation or behavioural optometry. Graduates may also seek careers in eye and vision research or as a consultant to ophthalmic industries.

Professional accreditation
Graduates of this program can register as an Optometrist in Australia.

Structure

| Vision Science core courses | Clinical Optometry Masters Courses | General Education non-science courses |
How to apply

Getting offered a place is competitive and entry into our undergraduate degrees is based on academic merit. Entry is assessed by your performance in a qualification such as the HSC, VCE, IB or any other recognised qualifications. For more information visit futurestudents.unsw.edu.au/how-to-apply.

Domestic applicants
(Australian citizens, Australian permanent residents, Australian permanent humanitarian visa holders and New Zealand citizens)

All applications for undergraduate study by domestic applicants are made through the University Admissions Centre (UAC). To lodge your application, visit uac.edu.au/undergraduate/apply.

As a domestic student, you may be eligible for adjustment factors including HSC Plus, Elite Athletes, Performers and Leaders and the Educational Access Scheme. To find out more about adjustment factors and how to apply, visit futurestudents.unsw.edu.au.

Guaranteed Entry Rank (ATAR + adjustment factors) allows us to tell you what selection rank will guarantee you a place in a particular degree at UNSW. For more information, visit unsw.edu.au/ge.

NOTES

1. The 2019 Lowest ATAR is the lowest ATAR (before adjustment factors were applied) to which an offer was made.

2. The 2019 Lowest Selection Rank is the adjusted rank (ATAR plus adjustment factors) you would have needed to gain entry to this degree in 2019. To see a complete picture of UNSW offer data, visit unsw.edu.au/degree.

3. For more information on Guaranteed Entry, please visit unsw.edu.au/ge.